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# Conserving Bahrain's water resources with Grundfos

TUBLI, BAHRAIN: In the Gulf climate of Bahrain, issues of water quality and conservation are of crucial importance. Having a reliable water supply for irrigation while also safeguarding drinking water resources are both critical to the development of the country.

To meet these multiple objectives, Bahrain's Ministry of Works has formed a wide-ranging master plan to manage the country's water resources and preserve its natural beauty. Grundfos is proud to be part of this programme.

## THE SITUATION

As part of its water conservation and management plan, the Bahrain Ministry of Works launched the so-called TSE Phase II programme to treat sewage effluent and utilise the recycled water. The programme involved major construction work to establish new transmission lines (41 km in length) and distribution networks (170 km in length). New reservoirs and pumping stations were also established, and this is where Grundfos entered the picture.

## THE GRUNDFOS SOLUTION

Grundfos supplied a total of 11 pumps. Five 160 kW pumps are installed in a primary clarification pit, and four 110 kW pumps transport effluent from the secondary clarification holding tank. Both pump types are submerged, and the installations feature the unique Grundfos guide rail and pressure flange system. The installation design was ideal for the quite narrow pump pits, as it makes it easy to withdraw the pumps for maintenance and periodic inspection – a perfect solution for those situations where in-situ repair work is not possible.

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TOPIC:  
Managing water resources

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LOCATION:  
Bahrain

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COMPANY:  
The Ministry of Works/  
Sewerage & Drainage  
Directorate of Bahrain

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Another special Grundfos feature aimed at easy maintenance also affected the client's choice: the SmartTrim system. This innovative technology allows users to adjust impeller clearance without dismantling the pump, saving a lot of time and effort. Like so many other clients around the world, the customer immediately recognised the savings on maintenance this would yield.

#### THE OUTCOME

The finished solution allows the Tubli WPCF facilities to treat an average of 200,000m<sup>3</sup> wastewater each day, generating recycled water for irrigation. The wastewater is collected from Manama, the capital of Bahrain, and surrounding towns, and the region's agriculture and landscaping projects have greatly benefited from the water and soil-improvement products generated by the project. The reduced discharges of effluent into the sea are also good news to marine life in the area.

The Grundfos solution was commissioned in March 2003 and after a few adjustments to the initial setup, the system has operated as promised. During the adjustments the customer experienced the importance of a Grundfos agent in Bahrain. Accordingly, the customer was very pleased with the after-sale service, expert assistance, and the Grundfos products

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## Related Products



### S PUMP - SUPER VORTEX SINGLE- OR MULTI CHANNEL IMPELLER

Pumping of raw water, unscreened raw sewage, water containing sludge, industrial effluent